1993-1994

California Academy of Sciences Annual Report

FOUNDED IN 1853 TO EXPLORE
AND EXPLAIN THE NATURAL WORLD

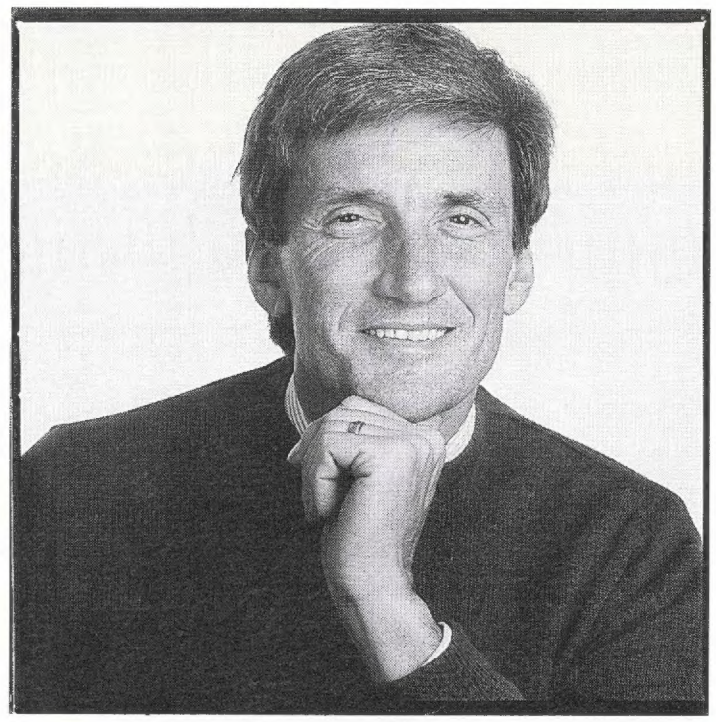
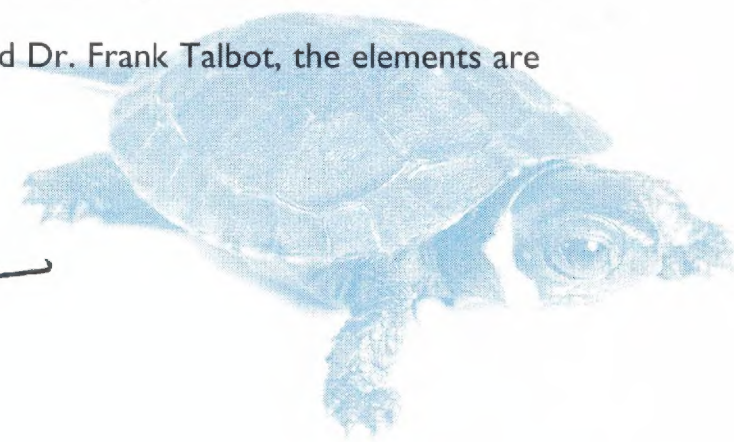


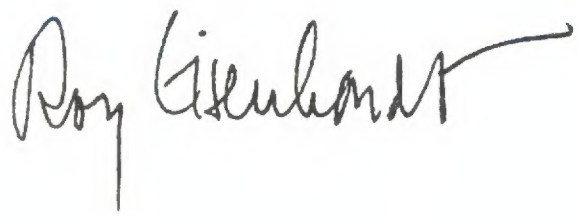
Photo: Susan Middleton. © CAS 1989.

Roy Eisenhardt

FROM THE EXECUTIVE DIRECTOR

The activities described in this annual report define a very proud year in the history of the Academy—a year which marked our 140th birthday. The Academy's mission is grounded in our scientific research—the documentation and classification of life. Functioning in partnership with our extensive research activity is our educational mission. This public focus of the Academy works to instill in us all a wonder, respect and a concern for the natural world. This year was a continuation of the efforts of the Board of Trustees, the staff and our invaluable volunteers to sharpen the focus of this institution on our critical mission. On the programmatic side, our educational offerings reached out more than ever to public schools, to after school programs and to all who can use the Academy to augment their own education. In addition to the important work of our scientists, we are seeking more collaboration with other institutions, from sharing databases on-line, to assisting the National Park Service in conceptualizing the future of the Presidio. A well-defined programmatic mission helps define changing infrastructure needs. With the assistance—hopefully—of a city bond to implement seismic and other infrastructure repairs, the Academy is planning an exciting renovation of the Steinhart Aquarium. Our intent is to preserve the history and tradition of our venerable jewel, while incorporating new aquarium technologies that afford the visitor an exciting viewpoint into the diversity and beauty of marine life. This year marked the end of my term as Executive Director, having served in this position proudly for five years. I feel a great indebtedness for the opportunity to work with a wonderful staff, Board and volunteers. Most rewarding is that my successor, Dr. Evelyn Handler, comes eminently qualified to lead this institution to the highest levels of achievement. Due to the efforts of my predecessors, among them Dr. George Lindsay and Dr. Frank Talbot, the elements are in place. Now it is up to all of us! My best wishes to you all.





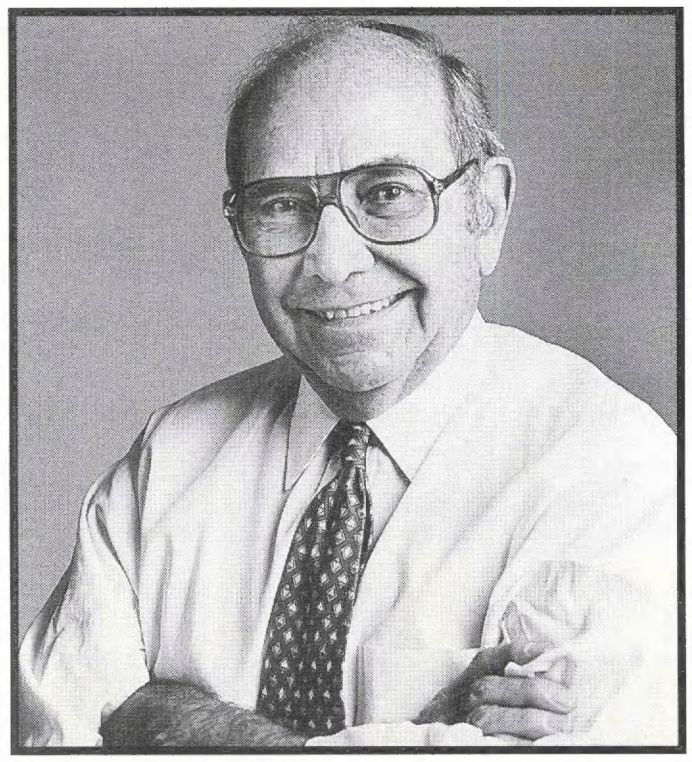


Photo: Susan Middleton. © CAS 1994.

Bill Kimball

From the Chairman of the Board of Trustees

As Chairman of the Board of Trustees I want to thank all of the Academy's wonderful supporters for a year of enthusiastic and generous participation in the programs of this fine institution. Fiscal year 1993-1994 was marked by new highs in philanthropic support and memberships. Generous individuals, foundations and corporations made possible the continuation of existing programs and supported exciting new offerings in both research and education. The Board of Trustees has been especially busy this year examining future directions for the Academy that will maximize the use of our resources toward the goal of serving the broadest possible audience. To that end, we are looking at new ways to "get the word out" about the wealth of information and resources available here in the oldest scientific institution in the West. The Board increased in size this year, as did the Academy Council. This latter group of educators and community and business leaders provides invaluable suggestions and counsel on current and proposed activities of the institution, while enhancing its image and visibility. One of our major accomplishments this year was creating a changing exhibition space in Wattis Hall, which affords the Academy the opportunity to host large exhibits. These large-scale exhibits will reinforce our visitors' desire to immerse themselves physically and intellectually in a broad range of topics relating to the natural world. We are looking forward to working with our new Executive Director, Dr. Evelyn Handler, who is an experienced administrator and distinguished scientist. I'd like to close by thanking Roy Eisenhardt for the remarkable job he did as Director. His constructive and energetic leadership and gentle humor will be greatly missed.

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AQUARIUM

The Steinhart Aquarium—the oldest public aquarium in the country and the grande dame of continental aquariums—celebrated its 70th anniversary this year. With more than 120 tanks containing thousands of aquatic creatures, including nearly 800 species of fishes, macro-invertebrates, reptiles, amphibians and black-footed penguins, the Steinhart represents a high point in classic multiple-tank aquarium architecture. The wide range of expertise within the scientific and engineering staff has enabled the Aquarium to foster this high diversity of species and to recreate aquatic habitats found all over the world—from the streams of Himalayan mountains to the dark ocean realms. An increasing number of aquarium exhibits double as vital research projects. One large, gently-lit tank that contains a precious few rather ordinary-looking fishes is a critical part of an extraordinary effort to preserve California's winter-run chinook salmon (*Oncorhynchus tshawytscha*), a race on the verge of extinction. Adjacent to the recently renovated "swamp" is a display of bog turtles (*Clemmys muhlenbergii*) on breeding loan from the Atlanta Zoo. The first year produced one healthy turtle—a significant achievement. Close by is a new presentation of green sea turtles (*Chelonia mydas*) from Hawaii. Steinhart is a "head-start" facility, established in cooperation with SeaLife Park in Hawaii. Each year, newly hatched turtles are nourished in the aquarium until they are big enough to survive on their own, then they are returned to Hawaii for release at sea. Much has happened in aquarium technology over the last 70 years. Although the Steinhart enjoyed a substantial facelift in 1963 when many of the tanks were rebuilt with updated materials, three decades of salt water corrosion has had its effects on the aquarium systems. There are thoughtful and exciting discussions currently underway to explore how Steinhart can take advantage of new technologies and design concepts in order to continue its role as an internationally ranked aquarium well into the next century.

REACHING OUT

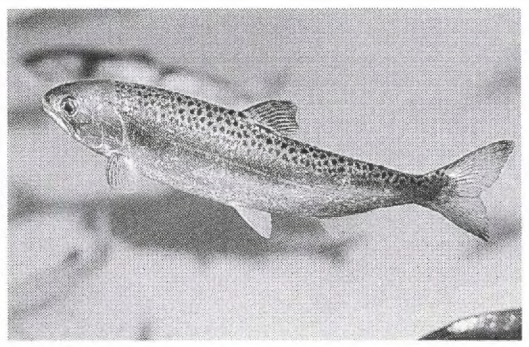


Photo: Charlotte Fiorito. © CAS 1993.

Once numbering more than a million in the Sacramento River, the king, or chinook, salmon is now seriously threatened with extinction. In 1991, only 191 winter-run chinook—one of four races named for the season they cross through the Golden Gate—returned to their ancestral spawning grounds. Twenty were captured in a last attempt to save the race, and Steinhart was established by the federal government as one of two sites for captive breeding. Most of the salmon are thriving behind the scenes, but a few are on display in a husbandry and viewing tank to educate the public about the seriousness of their plight. Some of the salmon will soon return to the river.

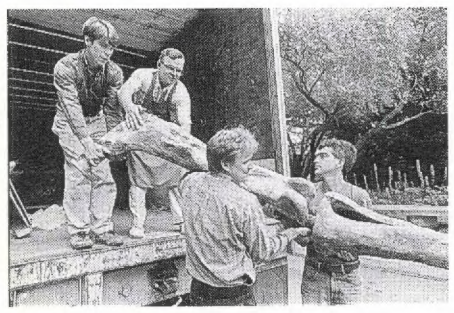
REACHING OUT

The new family sky show, "Touch the Stars," offered daily through the summer and holidays and on weekends the rest of the year, is a lighthearted, humorous exploration of astronomy through group participation. An activity booklet explains how families can duplicate many of the show's experiments under the stars in their own backyards.

As new and exciting information about our universe is revealed by instruments ranging from the Hubble Space Telescope to the Galileo spacecraft, Morrison Planetarium continues to be "the place" in the Bay Area to see and hear about astronomy. The sky shows created at Northern California's largest indoor universe attract larger audiences each year with more than 128,000 people taking in a record 1,114 presentations. In addition, the Planetarium hosted nearly 44,000 elementary school students and teachers to 181 special presentations for school groups. Among the regularly featured shows—"Startalk," "1994 Almanac," and "The Christmas Star"—were three outstanding presentations which debuted during this Academy year to planetarium and space enthusiasts. "Starbirds" gave our visitors an opportunity to view star patterns in the night skies named for birds and to examine the spellbinding celestial wonders within them. "Galileo's Universe" offered a historical account of the revolutionary discoveries of Galileo and their tumultuous effects on science. The presentations in the Planetarium coincided with an exhibit of the astronomer's own instruments which had never before been permitted to leave Italy. This exhibit was made possible by a joint effort of the Italian Consulate of San Francisco, Humanities West and the Academy. "Orion Rendezvous: A STAR TREK® Voyage of Discovery," based on Gene Roddenberry's *STAR TREK®: The Next Generation* and featuring the voices of series stars LeVar Burton, Majel Barrett Roddenberry and Jonathon Frakes, transformed the Planetarium into the Federation Starship Antares with visitors as Starfleet cadets. The Benjamin Dean Astronomy Lecture Series continued to bring renowned authorities on space. Highlights of the 10 presentations included: "The Big Bang and the Judaic-Christian Idea of Creation" by George V. Coyne, director of the Vatican Observatory; a presentation on the Comet Shoemaker-Levy 9 by its co-discoverer David Levy; and a lecture by astronaut and Academy trustee Rusty Schweickart, 25 years after his voyage on Apollo IX.

PLANETARIUM

Photo: Caroline Kopp, © CAS 1993.



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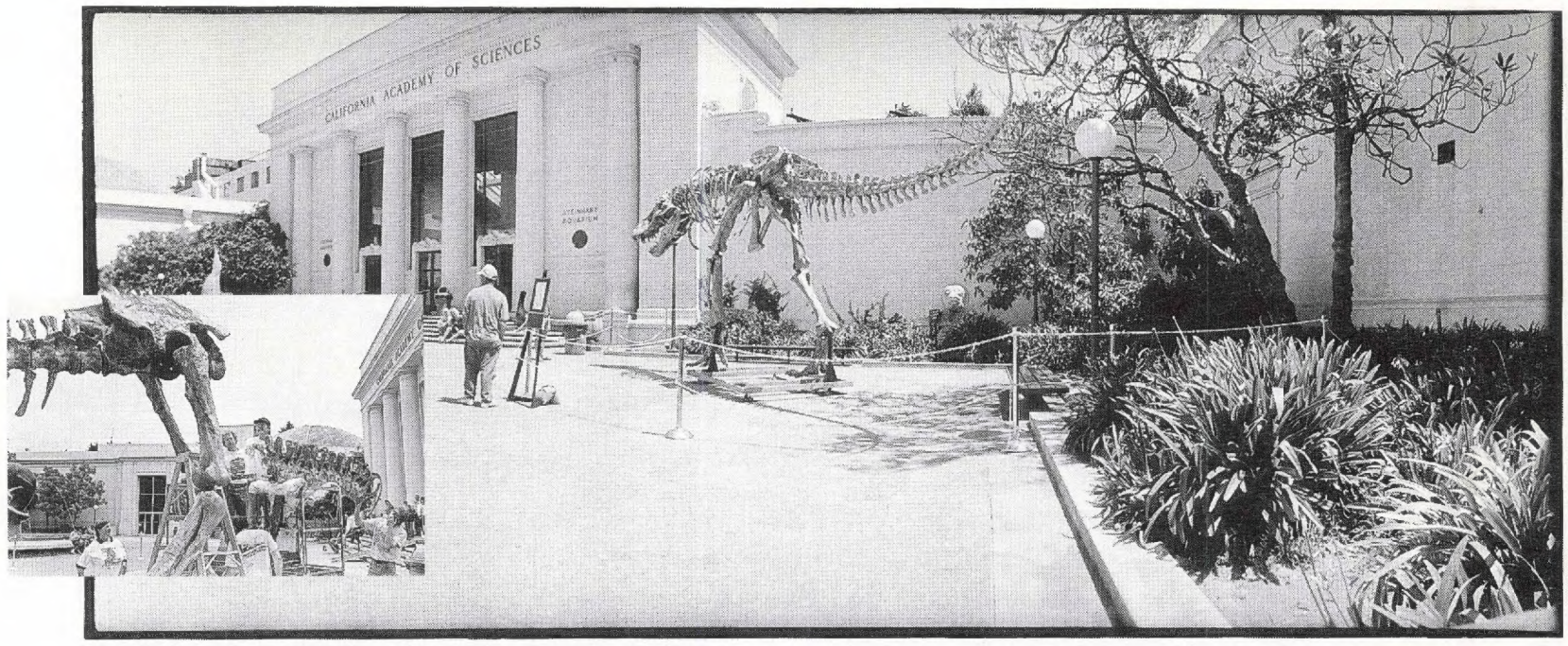

Photo: Roy Eisenhardt. © CAS 1993.

MUSEUM

As the scope of Academy's research has reached further afield, so has the breadth of its educational public programs. New visitor services attend to the needs of regional, national and international museum visitors. These new programs and services are particularly important on the busiest days when more than 15 thousand people may come through the doors. To accommodate increasing numbers of non-English speaking people—locals and tourists—maps of the museum are now available in eight languages, and a multilingual staff is ready to answer visitor questions. These efforts have helped in more than doubling the ethnic diversity of museum visitors over the past five years. And, membership in the Academy has reached an all-time high of 25,000. ~ Since 1976 the Hall of Human Cultures has exhibited detailed dioramas of traditional societies. For many visitors these historical tableaux were among the museum's most memorable images. We are deeply indebted to the Paul L. and Phyllis Wattis Foundation for making these displays possible. As research in anthropology has evolved, so have new ways of looking at ourselves and our cultures. In order to present the most recent perspectives, Wattis Hall has been transformed into a space that can accommodate large anthropological and other traveling exhibits—including those requiring climate controlled conditions which we previously could not present. ~ For our first venture in the new hall, we went boldly into the final frontier of space with the immensely popular exhibit, *STAR TREK®: Federation Science*. This display, created by the Oregon Museum of Science and Industry in association with Paramount Pictures, presented visitors with an exciting vision of the future. More than 140,000 people over three months experienced interactive exhibits about the science behind the science fiction. ~ Three innovative new displays—*Hands On Science*, *Birds of a Feather* and *Jurassic*—were created by the Exhibits Department in

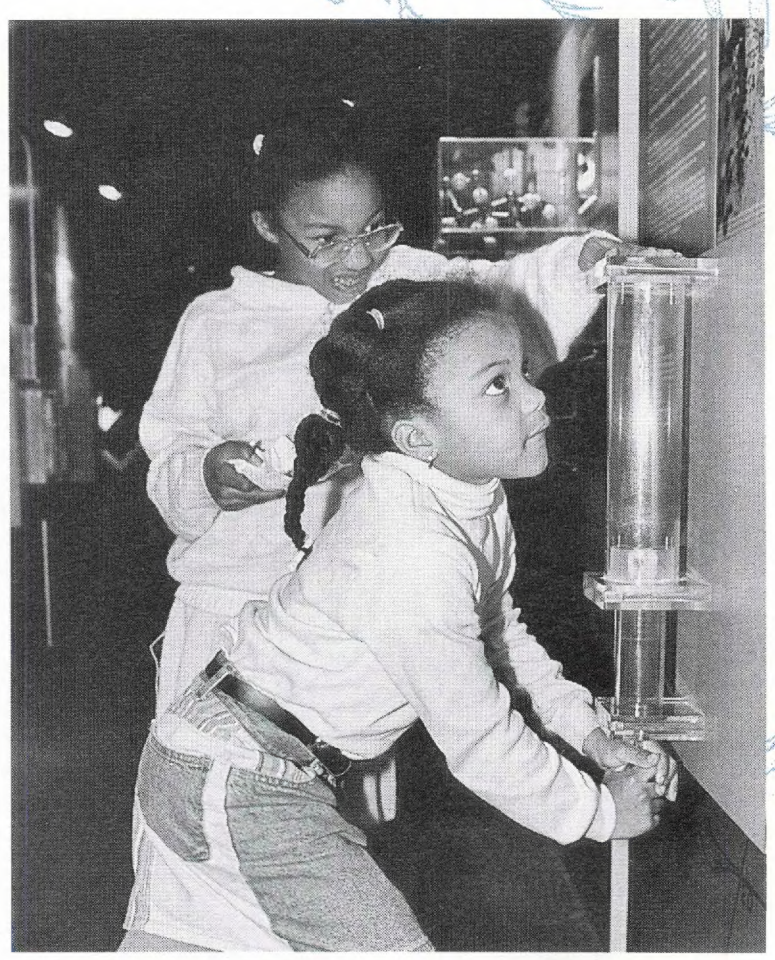

Photo: Charlotte Fiorito. © CAS 1994.

Children from the African American Scientific Institute enjoy the Black Achievers in Science *exhibit.*

A life-size Tyrannosaurus rex *arrives as precious cargo and is assembled piece by piece to greet visitors in the Academy's central courtyard.*

Reaching Out

The Academy's wealth of knowledge about the natural world is now available through on-line services. The Biodiversity Resource Center's presence on the museum floor has given visitors ready access to in-depth information via computer. Staff demonstrate how to access the catalogs of the state's major libraries and how to navigate the Internet. More than nine thousand visitors each year use the profusion of books, magazines, reports, software and compact discs, including CD-ROM bibliographic data bases such as Zoological Record and Wildlife Worldwide. A new CD on California's native plants was created in memory of late Trustee Sherman Chickering, directed by Botany Curator Frank Almeda and largely photographed by Executive Director Roy Eisenhardt.

an effort to bring the message of Academy research to the public. *Hands On Science* featured touchable specimens from the collections with hands-on learning opportunities. *Birds of a Feather* rededicated the dioramas once located in Mailliard Hall, now closed for seismic work. Hundreds of hours of volunteer work renovated these displays with a fresh approach, including new exhibits that elicit visitor participation. *Jurassic* used fossil material, and an impressive replica of a *Tyrannosaurus rex* skeleton, to discuss the science from the film *Jurassic Park*. The museum was also a venue for the traveling exhibits *Black Achievers in Science* and the *California Midwinter Fair and Exposition* that coincided with the centennial of the fair, originally held on the Academy's current site. Docents and other volunteers provide a critical component to the museum floor. Over 1,200 volunteers contributed a record 58,209 hours to the working of the Academy, both in the museum and in schools and other locations. In addition to the regular docent tours for school groups, trained guides now offer popular "highlight" tours daily, which include an overview of all the major halls. *STAR TREK®* was particularly volunteer intensive with more than one hundred Star Fleet crew giving nearly 4,000 hours to help visitors experience the scientific challenges of the future. High school interns offered another close-up view of science to museum visitors. Every day these young students, under the guidance of scientists and educators, presented lively Science In Action programs for the public. These and other successful programs have earned the Academy continued accreditation with the prestigious American Association of Museums (AAM). We also have been selected by AAM as one of 14 demonstration and monitoring sites for its "Excellence and Equity" program. This honor will draw national attention to our educational programs over the next few years, and ensure our emphasis on reaching a diverse audience.

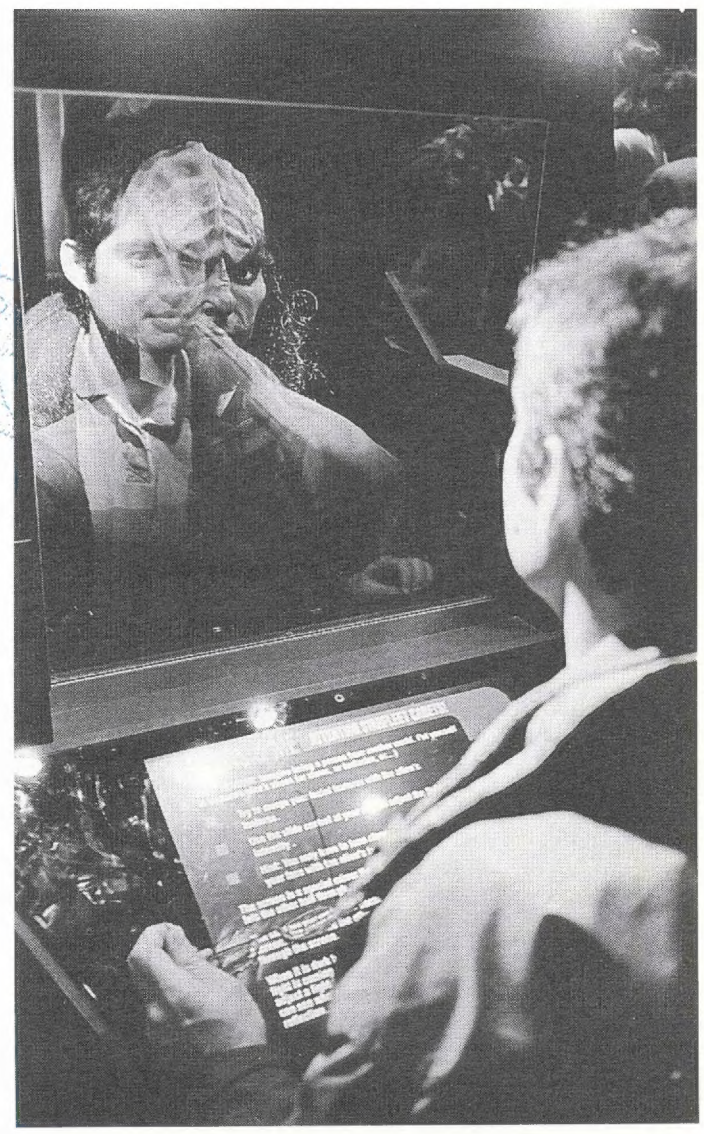

Photo: Charlotte Fiorito. © CAS 1994.

A visitor watches as he transforms into a Klingon, experiencing one of the many interactive exhibits in STAR TREK®: Federation Science.

Photo: Susan Middleton. © CAS 1994.

Arachnologist Dr. Charles Griswold holds a "bird-eating" spider from South America—one of the largest spiders in the world.

RESEARCH

Academy researchers continue their 141-year-old tradition of systematic research—the examination of the complex chain that connects all life on Earth. ~ The organization of collection data proceeds with the use of new informational technologies. With support from the National Science Foundation, currently greater here than at any other similar institution in the country, specimen data is being computerized and standardized. It is our goal to make the Academy's storehouse of knowledge accessible on-line through Internet. ~ The work of many scientists has maintained the Academy's close association with Africa and African scientists. Herpetologist Robert Drewes made a research trip to continue his studies of frogs in East Africa, particularly the highly variable subspecies complex of tree frogs *Hyperolius viridiflavus*, the only terrestrial animals known to change sex. Wojciech Pulawski's lifelong inquiry into the classification and evolution of solitary hunting wasps has recently taken him to Mauritania and Madagascar, where he has collected many previously unknown species. Charles Griswold visited Cameroon and Madagascar to study the natural history of montane rain forests as revealed by spiders. In the course of finding a hundred new species, including 20 collected during the year, Griswold has confirmed that these forests are both ancient—extending back to the time of the dinosaurs—and resilient. ~ John McCosker, Terry Gosliner, Gary Williams, and Robert Van Syoc renewed the Academy's century-old connection with the Galápagos with an extended diving excursion around the islands. They discovered several new species of nudibranchs and many marine fauna never before found near the archipelago. ~ Director of Research Patrick Kociolek joined his colleagues from the museum research community to meet with Secretary of the Interior

GROWTH AND USE OF COLLECTIONS IN RESEARCH DEPARTMENTS

Department	Acquisitions	Loans	Research
	Total specimens accessioned	Total specimens loaned	Total visitors (number of visitor days)
Anthropology	62	13	20
Aquatic Biology	N/A	N/A	900
Botany	27,562	6,621	966
Entomology	99,175	28,261	3,247
Herpetology	6,867	1,991	290
Ichthyology	1,063	5,717	133
Invertebrate Zoology & Geology	8,431	3,031	128
Ornithology & Mammalogy	1,119	408	742
Totals	142,216	45,294	6,426
Total holdings in all collections – as of June 30, 1992			14,883,491
Percentage of growth since 1972 for all departments			74.18 %

Photo: Jens Vindum. © CAS 1993.

Heidi Robeck from the Herpetology Department holds Chamaeleo namaquensis *on a research expedition to Namibia.*

Photo: Jens Vindum. © CAS 1993.

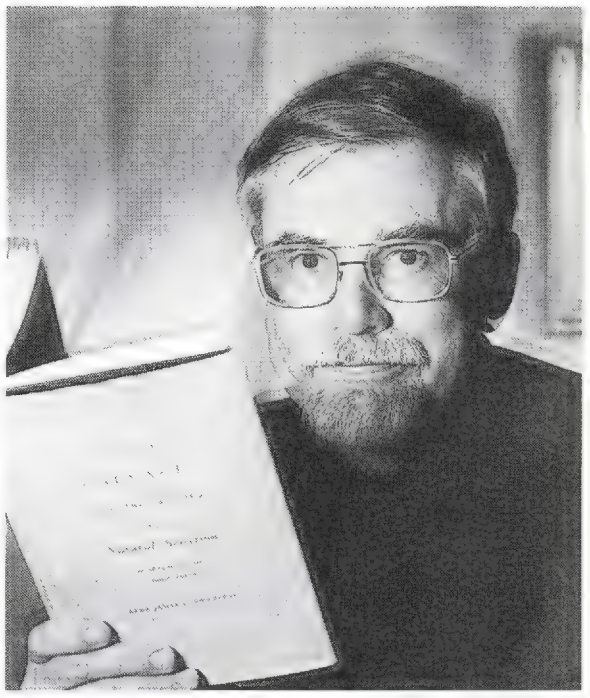

Photo: Caroline Kopp. © CAS 1993.

Michael Ghiselin, Senior Research Fellow in the Department of Invertebrate Zoology and Geology, was instrumental in establishing the Center for the History and Philosophy of Science, of which he is the Chair.

Bruce Babbitt to discuss the active role museums can play in compiling the proposed National Biological Survey. The purpose of the survey is to assess the status and trends of the nation's biological resources. The priceless wealth of data and specimens in their collections make the museums uniquely qualified for this advisory role.

John McCosker will be the first to hold a new endowed chair in Aquatic Biology. After 21 years as director of Steinhart Aquarium, he will devote his full attention to marine research. Botanist Dennis Breedlove was recently honored by the Governor of Chiapas for his contributions to the natural sciences of that Mexican state. Douglas Bell, the current recipient of the Tilton Postdoctoral Fellowship, is studying the molecular systematics of peregrine falcons with frequent visits to their nesting sites on the Bay Bridge. With the arrival of Karen Cebra, Collections Manager with Ornithology and Mammalogy, the Academy is once again prominently involved with the investigation of marine mammal strandings along Northern California's coasts. The Academy also inaugurated the Center for the History and Philosophy of Science, headed by Michael Ghiselin. This is the first such unit established in a natural history museum. Two seminars and two meetings brought such distinguished speakers as David Hull and Ernst Mayr, covering such subjects as systematic biology and historical science. Two other notable symposia were held at the Academy. In February 1993, a symposium on the "Issues in Hominid Evolution" attracted scientists from all over the world. It was the first of a series of symposia endowed by the Paul L. and Phyllis Wattis Foundation. In March 1994, the Anthropology Department sponsored the Reitz Food Symposium: "Foods for the Future," on the new biotechniques in food. Spring 1994 saw the completion of the seismic upgrade of the Invertebrate Zoology and Geology building, and after being temporarily inconvenienced, the department is once again reestablished in an improved space, complete with a much needed elevator—a useful implement when specimens may weigh several hundred pounds.

Reaching Out

Two years ago the three largest herbaria in California—the Jepson Herbarium in the University of California at Berkeley, Rancho Santa Ana Botanical Garden, and the Academy's Botany Department—were funded to computerize their collections on a single data base that would eventually include information and high resolution images of every vascular plant in the state. The programming for this ambitious project—Specimen Management System for California Herbaria (or SMASCH)—is complete and data entry, which is expected to take about 25 years, should soon be under way. Crucial to the project was the establishment of an Internet link. The Academy has set up its own link (*gopher.calacademy.org*), through which anyone with an Internet connection can access the type catalogs of the research departments, including the full genera of fishes, *Pacific Discovery* articles, and other detailed information about the Academy. Already more than 7,000 people a month use this service.

Photo: Caroline Kopp. © CAS 1992.

Photo: Charlotte Fiorito. © CAS 1992.

Photo: Caroline Kopp. © CAS 1993.

Reaching Out

As the need to understand our natural world becomes more critical, the Academy increasingly emphasizes the importance of sharing this knowledge with an ever-widening audience. An office for New Audience Development was created to attract a more diverse attendance to the museum and to bring the work of the Academy into the community. Two principal exhibits in 1992/93, *Caribbean Festival Arts* and *River of Gold: Pre-Columbian Treasures from Sitio Conte*, and the 1994 exhibition of *Black Achievers in Science* were major draws. Ethnic Family Days, Saturday performances of Traditional Arts, multilingual Academy maps, and behind-the-scenes tours for community groups have all contributed to reaching an increasingly diverse public. Equal emphasis has been placed on taking the Academy's resources to the community with a lively outreach program. It would be hard to find a San Francisco ethnic festival—Cinco de Mayo, Carnaval, Philippines Fiesta—that did not feature an exhibit from the Academy. The partnership between multilingual high school interns and knowledgeable docents proved invaluable in explaining the artifacts and specimens, and capturing the imaginations of their audience. Over 1,000 teachers took part in the Academy's on-site enrichment programs, targeting California educators from elementary through high school. Biology Forum, now in its ninth year, exemplifies an excellent and effective use of the Academy's expertise. Fellows and research staff shared the latest in scientific findings with more than 600 high school teachers in three day-long sessions. The Academy reached out to educators further afield through the publication *Focus on Science Education*, which features ideas for classroom activities and through "lending box kits." The kits include specimens, slides, books, and tapes. Targeted curriculum packages also are being produced, including one on the ozone layer narrated by astronaut Dr. Millie Hughes-Fulford, presenter of this year's Lilienthal Lecture. During the year, more than 200,000 children

Postdoctoral Associate Doug Bell and intern Ivan Samuels banding white-crowned sparrows in Golden Gate Park.

Photo: Caroline Kopp. © CAS 1993.

The Anthropology Department's Traditional Arts program focuses on folk art traditions from around the world. (Pictured from left to right) Weaving intricate Manipur wedding baskets; Carnaval dances performed by members of the local Caribbean community; and Turkish women from village cooperatives demonstrate the skills of carpet weaving.

from throughout Northern California came to the Academy on organized school trips. For nearly a quarter of the students, their visits to the museum were enhanced by docent-led tours. Almost as many students enjoyed special school shows in the Planetarium. The high school intern program, begun in 1991, has blossomed into an inspiring and effective element within the Academy's education program. The students, ages 14 to 18, come from a cross section of schools and community groups around San Francisco and have become an integral part of the museum. Recognized by the Association of Science and Technology Centers, the program is now the recipient of a prestigious YouthALIVE Grant for "at risk" students. The Junior Academy provided a wide variety of after school and weekend hands-on science courses to over 1,500 children. Especially popular were physics courses taught in English and Russian by a Russian physicist, stop-motion animation courses inspired by the movie *Nightmare Before Christmas*, and classes on fossils and DNA using the Academy's *Jurassic* exhibit. Sleeping bags were essential equipment for exciting trips of discovery from a field trip to Montana to dig for dinosaurs to overnighters in African Hall for scout troops and community groups. The summer of 1993 saw the initiation of Camp Academy, a joint program with the San Francisco Recreation & Parks Department. Camp Academy brings children 6 to 12 years old from playground and latchkey sites throughout San Francisco for a week of hands-on learning activities. Complementing Camp Academy, the Supervans operated almost daily during the summer months visiting playgrounds, day care and community centers, homeless shelters, and boys and girls clubs. Throughout the school year,

Photo: Dong Lin. © CAS 1994.

Animals from the Touch Tidepool visit a San Francisco community center as part of the Supervan outreach program.

Photo: Charlotte Fiorito. © CAS 1992.

A Junior Academy student examines fresh water ecosystems in Golden Gate Park.

the Supervans also visited San Francisco Saturday Schools, bringing exciting hands-on science learning to an underserved population. The Supervan outreach and Camp Academy programs once again made partners of Academy educators, docents and high school interns. As a team, they brought experience, enthusiasm and multilingual skills to Bay Area youngsters. ~ Participation in the Adult and Family Education program was at an all time high with a record number of courses on a rich variety of subjects. Especially sought after were classes on the science behind *STAR TREK*®, and a new class on San Francisco's water system taught by Academy Operations Director Joe Brennan. ~ *Pacific Discovery*, the Academy's quarterly magazine, has recently published issues featuring urban wildlife, bears and mountain lions. The thoroughly researched and beautifully illustrated publication is now distributed throughout the United States, Canada and other countries of the Pacific Rim. ~ A series of stellar speakers were invited to lecture in the Morrison Auditorium. Two lectures on human origins, one by Donald Johanson, and one by Yuri Mochanov, were given to sellout crowds. David Western, newly appointed Director of the Kenyan Wildlife Service, and elephant expert Iain Douglas Hamilton both spoke on African conservation, and Nobel physicist Murray Gell-Mann explained his view of natural systems. ~ The Academy's Conversations & Readings at the Herbst Theatre have become a regular feature of the City Arts & Lectures program. Especially popular this year were evenings with Peter Matthiesson and Gary Snyder, British environmental artist Andy Goldsworthy, and authors Jim Harrison and Terry Tempest-Williams, who gave the first Wallace Stegner Memorial lecture. Many of these lectures were broadcast on National Public Radio. ~ A regular radio feature is the series of 90-second Science In Action segments hosted by Jerry Kay and heard across the nation on CBS affiliates. ~

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Questioning provides active learning from literature-based science instruction through the Academy's involvement with the San Francisco Unified School District's Saturday School Programs.

IN MEMORIAM

It is with great sadness we honor the passing of two of the greatest naturalists ever associated with the Academy. Botanist John Thomas Howell, who had been associated with the Academy for 65 years, longer than anyone else in its history, died in May 1994 at age 90. Tom Howell personally added some 55,000 plants to the Academy's collection, including many previously unknown to the scientific community. The species and variety designation *howelii* is peppered throughout California's floral taxonomy. Howell's best known achievement was his book *Marin County Flora*. The writing within this unassuming title is informed, revealing, poetic and vigorous. Howell considered his greatest contribution the journal, *Leaflets of Western Botany,* which he published for 35 years. Zoologist Robert T. Orr, the Academy's Senior Scientist, joined the staff in 1936 and was still active at the Academy until a few weeks before he passed away in June 1994 at age 85. Bob Orr's knowledge was both broad and deep, his expertise ranging across all of nature's spectrum. He wrote more than 260 popular and scientific articles and 15 authoritative texts, including books on vertebrate biology, mammals (especially marine mammals), birds, mushrooms and wildflowers. He was a Fellow of the Explorer's Club and journeyed throughout the world.

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John Thomas Howell

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Revellers at the third annual Summertime Gala, The Bedrock Ball, raised $18,000 for the Academy's environmental education programs for children.

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Young visitors are fascinated by sharks during one of the daily Science In Action presentations in Cowell Hall.

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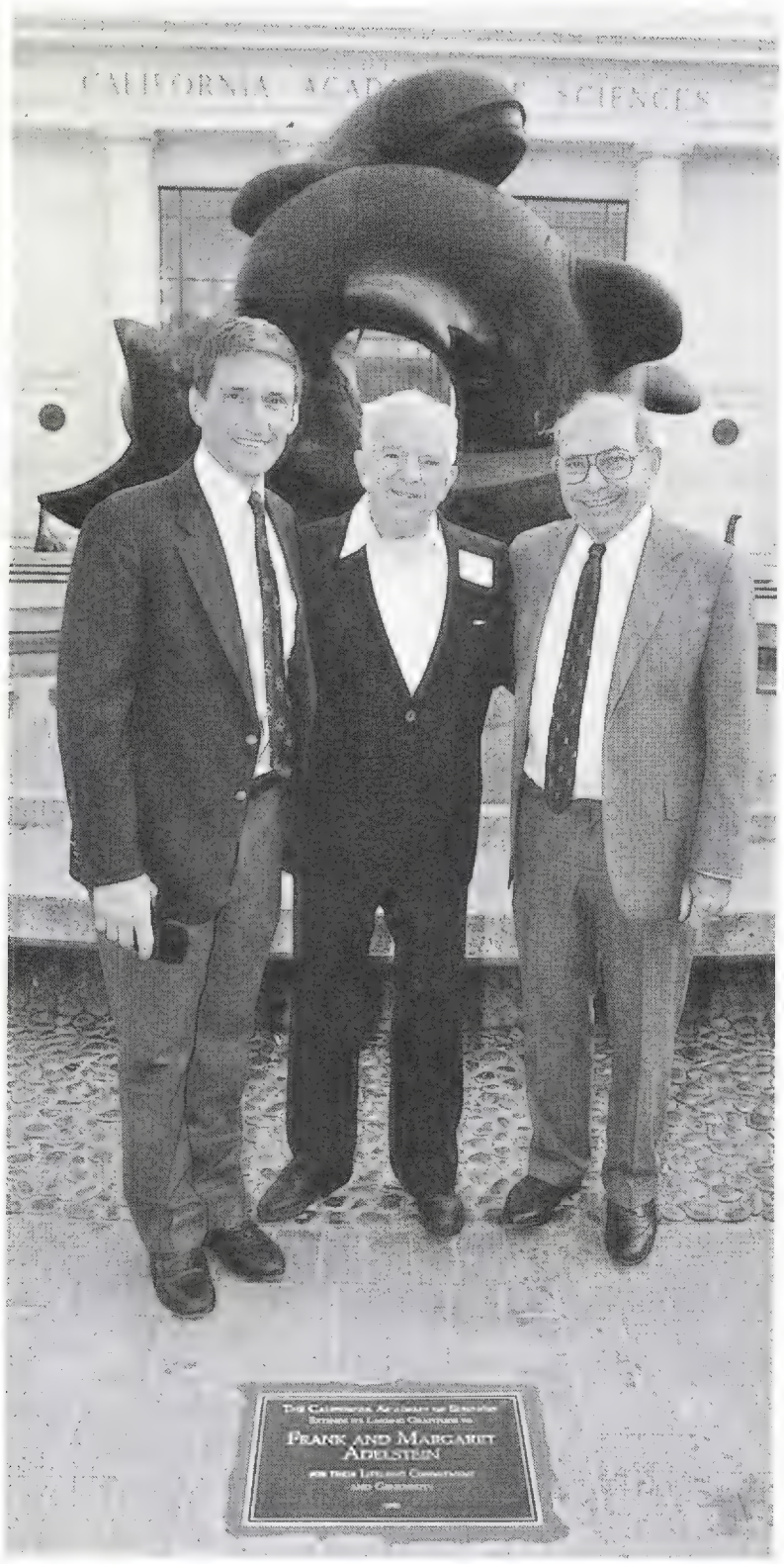

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Executive Director Roy Eisenhardt (left) and Board Chairman William Kimball (right) with Frank W. Adelstein (center) at the dedication ceremony honoring Frank and Margaret Adelstein's $2.5 million gift, establishing a fund to support the Academy's leadership role in science education for children.

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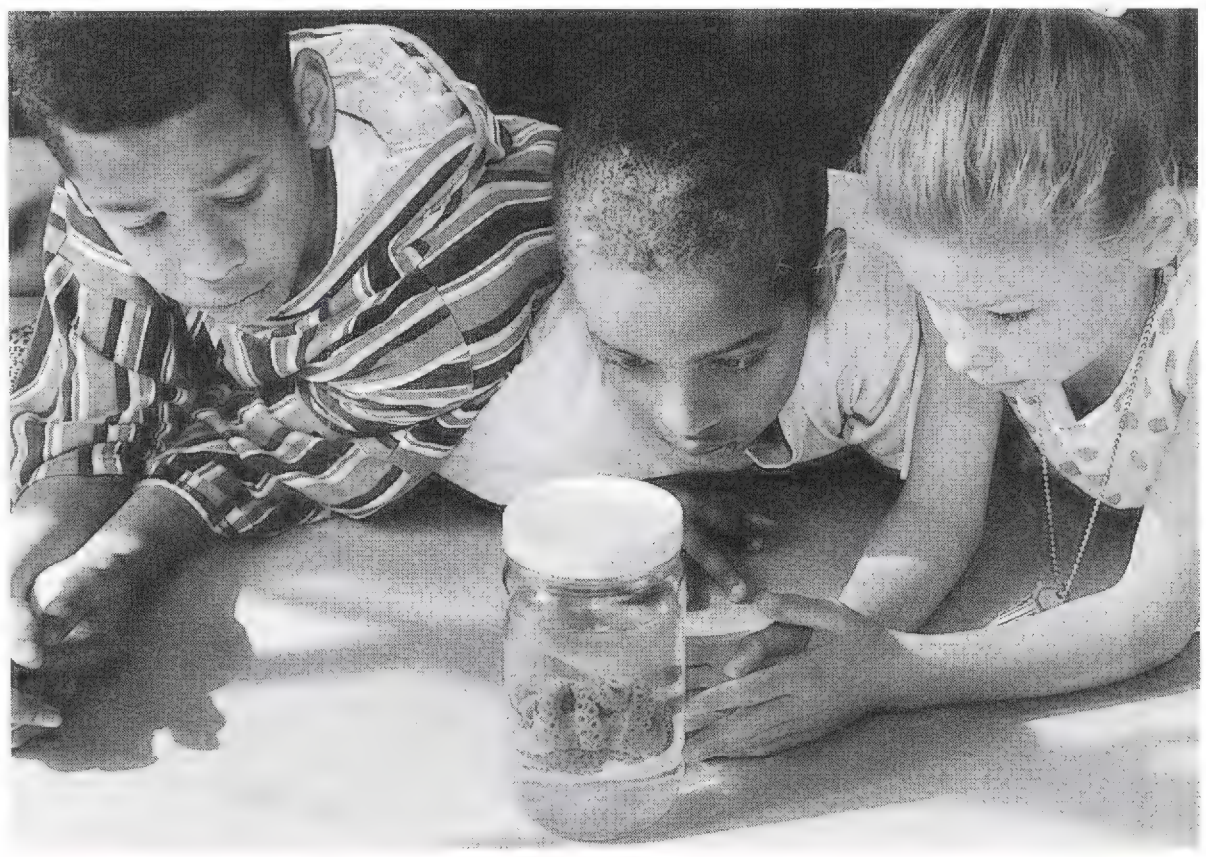

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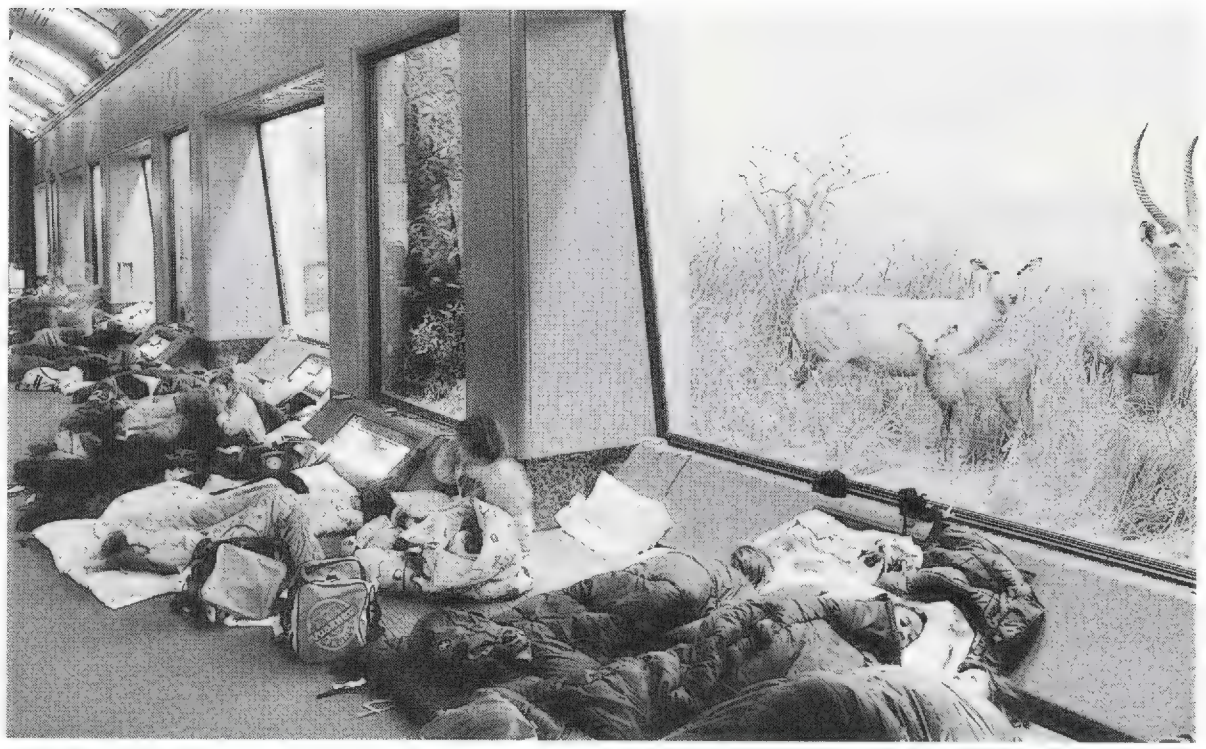

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The Bay Area Girl Scout Council camps out in African Hall following a special flashlight tour of the Aquarium and a Planetarium show.

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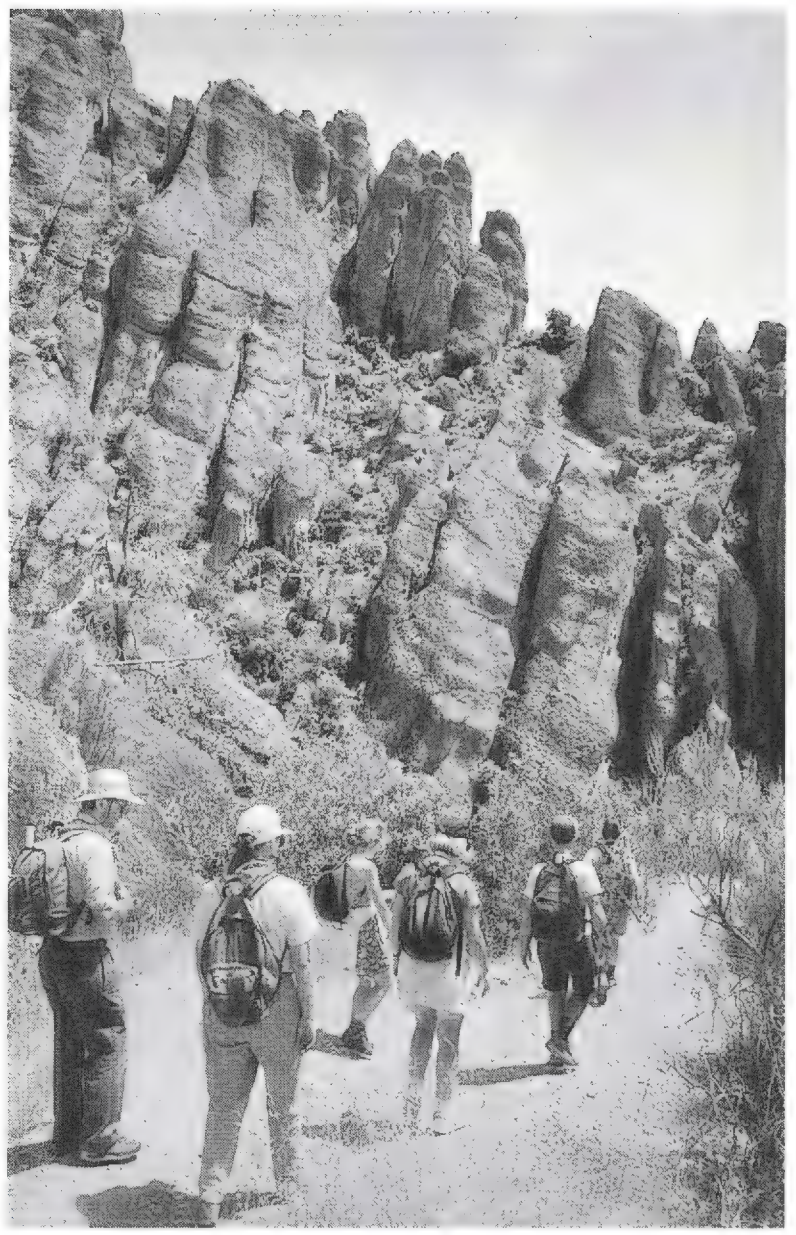

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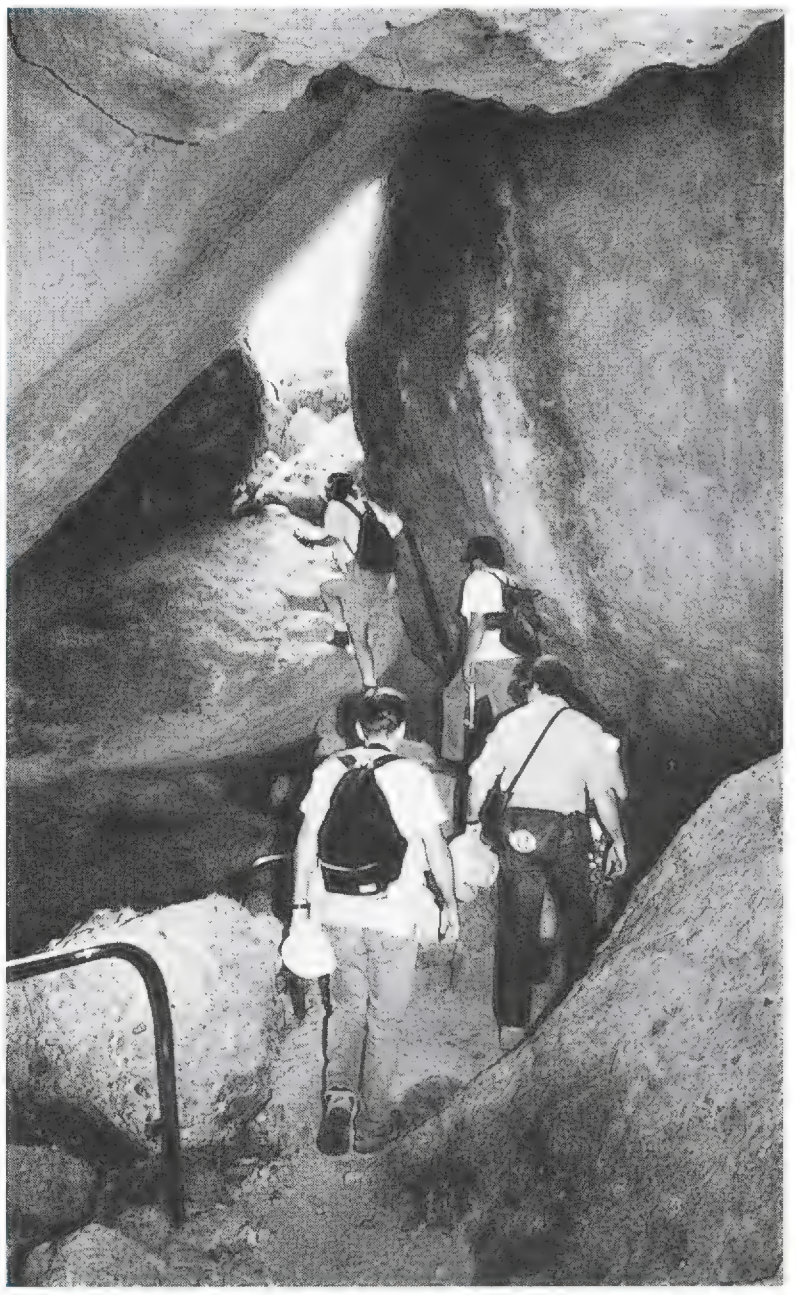

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Academy members enjoy an Adult and Family Education trip to the Pinnacles.

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San Francisco Recreation & Park Department summer playground students learn about the food web at Camp Academy with Janet Robbins.

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Naturalists lead tours of Pepperwood Ranch Natural Preserve, the Academy's 3,100-acre treasure in Sonoma.

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Aq	Aquarium
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Bo	Botany
CD	Certified Diver
CI	Clerical
Do	Docent
DR	Discovery Room
Dv	Development
Ed	Education
EM	Educational Media
En	Entomology
Ex	Exhibits
He	Herpetology
HL	Highlight Docent
Ic	Ichthyology
ID	Information Desk
IG	Invertebrate, Zoology & Geology
IS	Instrument Shop
JA	Junior Academy
Li	Library
LS	Library Special Collection
Mm	Membership
OM	Ornithology & Mammalogy
Op	Operations
Os	Osher Laboratory
PD	Pacific Discovery
Ph	Photography
PI	Public Information
Pl	Planetarium
PP	Public Programs
PW	Pepperwood Ranch
SE	Special Events
ST	Star Trek
TP	Tidepool

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Ornithology and Mammalogy Collections Manager Karen Cebra shares specimens with science teachers during Biology Forum.

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Academy photographers Susan Middleton and David Liittschwager have traveled throughout North America, documenting 100 federally-listed endangered species. Their work will be featured in an upcoming exhibit, premiering at the Academy in October, and published in a large format book by Chronicle Books. Here they are pictured with a Hawaiian monk seal.

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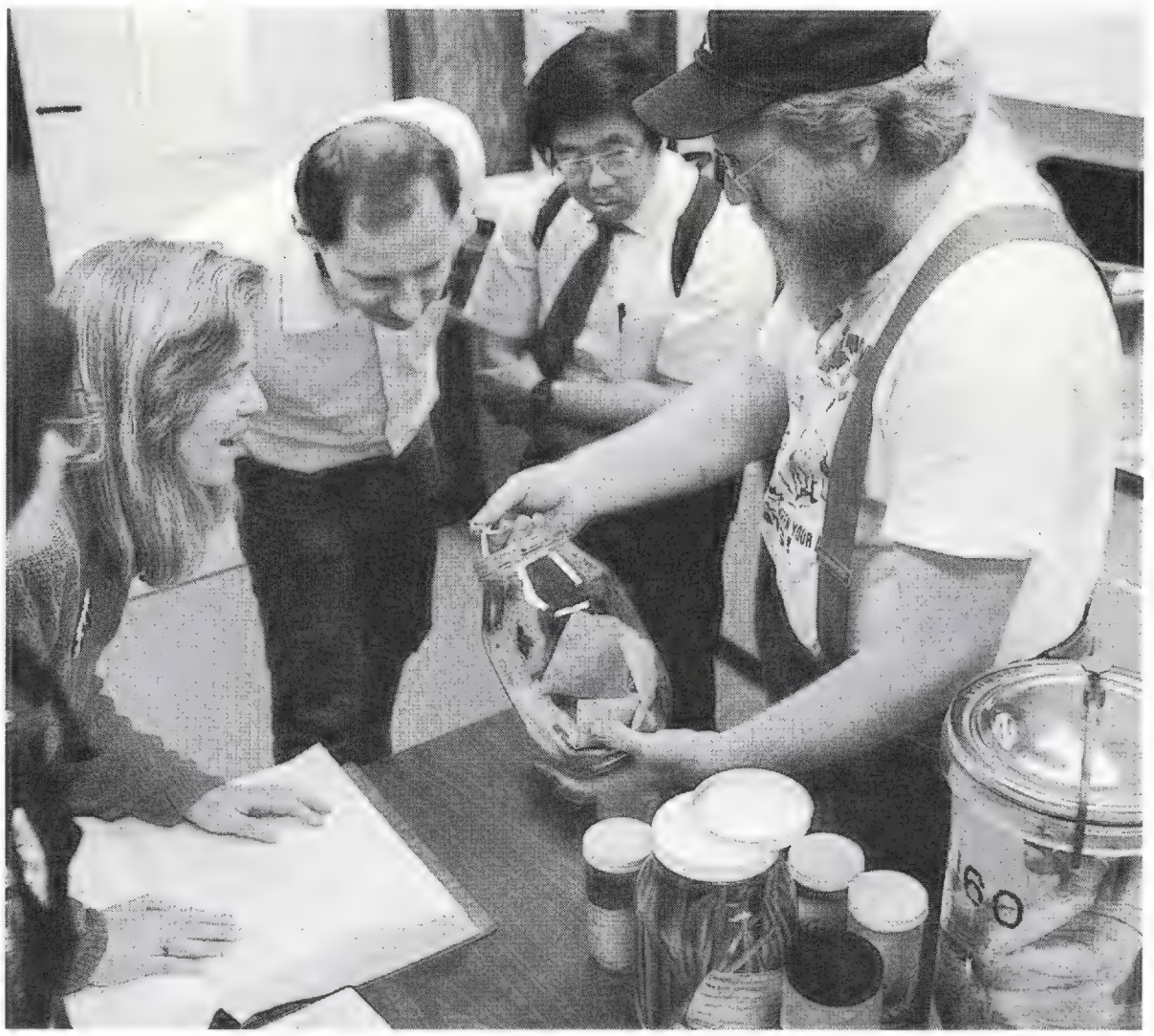

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SCIENTIFIC PUBLICATIONS OF THE RESEARCH DIVISION

Anthropology

Abstracts, Reviews and Popular Publications:

Anderson, J. and K. Kamb. 1994. Directory of Ethnic Organizations and Community Resources in the San Francisco Bay Area. California Academy of Sciences.

Anderson, J. 1994. A Teaching Kit for Grades One through Five. California Academy of Sciences.

Aquatic Biology

Scientific Publications:

McCosker, J.E., A. Baranes and D. Golani. 1993. Description of the adult of *Leptocephalus echeloides* D'Ancona (1928), a deepwater snake eel, genus *Ophichthus* (Pisces: Ophichthidae), from the Gulf of Aqaba. Cybium 17(2):165-170.

McCosker, J.E., and R.H. Rosenblatt. 1993. A revision of the snake eel genus *Myrichthys* (Anguilliformes: Ophichthidae) with the description of a new eastern Pacific species. Proceedings of the California Academy of Sciences 48(8):153-169.

Randall, J. E. and **J.E. McCosker**. 1993. Social mimicry in fishes. Revue Francaise Aquariologie 20(1):5-8.

Abstracts, Reviews and Popular Publications:

Bennetta, W.J. 1993. Holt's claim is ridiculous, but this is a superior book. [Review of] Modern Biology (a high school book published by Holt, Rinehart and Winston). The Textbook Letter 4(3):11-12.

_____. 1993. An engaging textbook, marred by boosterism. [Review of] ChemCom: Chemistry in the Community (a high school textbook published by Kendall/Hunt). The Textbook Letter 4(4):10-12.

_____. 1994. This book is a fraud. [Review of] Sexuality, Commitment, and Family (a religious book that is being promoted for use in public schools). The Textbook Letter 4(6):8, 11-12.

_____. 1994. It's phony and vicious, but it's funny anyway. [Review of] World Cultures (a high school book published by Prentice Hall). The Textbook Letter 5(1):4, 7-8.

_____. 1994. The books are still junk, the claims are misleading. [Review of] Prentice Hall Science Series (series of six books for use in middle schools). The Textbook Letter 5(1):9-12.

_____. 1994. Right for some students, but not right for others. [Review of] Biology: Visualizing Life (a high school book published by Holt, Rinehart and Winston). The Textbook Letter 5(2):5-6.

McCosker, J.E. 1994. In the Beginning. Rodale's Scuba Diving, July. Pp. 60-65.

_____. 1994. Eels and their allies. *In* Encyclopedia of Fishes. Pp. 85-90. J. Paxton and W.N. Eschmeyer. Eds. Weldon Owen Pubs., Sydney.

_____. 1994. Letter from the field: In Darwin's footsteps—underwater. Pacific Discovery 47(4):40-42, 51.

Botany

Scientific Publications:

Almeda, F. 1993. *Stanmarkia*, a new genus of Melastomataceae from the volcanic highlands of western Guatemala and adjacent Mexico. Brittonia 45:187-203.

_____. 1993. Melastomataceae *In* Flora del Bajio y de Regiones Adyacentes. Fasciculo 10:1-37. Instituto de Ecologia, A.C. Centro Regional del Bajio, Patzcuaro, Michoacan, Mexico.

_____. 1993. An Evaluation of the Meso-american species of *Meriania* (Melastomataceae: Merianieae). Proceedings of the California Academy of Sciences 48:141-152.

_____. 1993. *Pilocosta* (Melastomataceae) revisited: a new species, polyploidy, and the base chromosome number of the genus. Novon 3:311-316.

_____. 1994. *Arthrostemma primaevum* (Melastomataceae): a new species endemic to southeastern Mexico. Brittonia 46:75-80.

Daniel, T.F. 1993. A synopsis of *Lophostachys* (Acanthaceae) in Mexico and Central America. Selbyana 14:64-70.

_____. 1993. *Staurogyne agrestis* (Acanthaceae), a genus and species new to Mexico. Sida 15:367-372.

Daniel, T.F. and D.C. Wasshausen. 1994 (1993). A new *Carlowrightia* (Acanthaceae) from South America. Nordic Journal of Botany 13:653-656.

Entomology

Scientific Publications:

Arnaud, P.H., Jr. 1993. [Obituary] Thomas William Davies (1915-1990). Journal of the Lepidopterists' Society 47:255-259.

Chinn, J.S., and **P.H. Arnaud, Jr.** 1993. First records of *Dichocera* (Diptera: Tachinidae) reared from *Ceuthophilus* (Orthoptera: Rhaphidophoridae) hosts in Nevada and New York. The Pan-Pacific Entomologist 69:176-179.

Foote, R.S., **F.L. Blanc** and A. L. Norrbom. 1993. Handbook of the Fruit Flies (Diptera: Tephritidae) of America North of Mexico. Cornell University Press, 571 pp.

Freitag, R., and **D.H. Kavanaugh**. 1993. A new species of *Cicindela (Cicindela)* (Coleoptera: Carabidae: Cicindelini) from remnant native grassland in Santa Cruz County, California. Coleopterists Bulletin 47:113-120.

Giesbert, E.F. and **J.A. Chemsak**. 1993. A review of Rhopalophorini (Coleoptera: Cerambycidae) of North and Central America. Insecta Mundi, 7(1-2):27-64, 12 figs.

Griswold, C.E. 1993. Investigations into the phylogeny of the Lycosoid spiders and their kin (Arachnida, Araneae, Lycosoidea). Smithsonian Contributions to Zoology 539:1-39.

Isard, S.A. and **M.E. Irwin.** 1993. A strategy for studying the long-distance aerial movement of insects. Journal of Agricultural Entomology 10:283-297.

Jaffe, K. and **J. Lattke**. 1994. Ant fauna of the French and Venezuelan Caribbean Islands. *In* Exotic Ants: Biology, Impact and Control of Introduced Species. D.F. Williams, ed. Westview Press, U.S.A. Pp. 181-190.

Jansson, A. and **J.T. Polhemus**. 1993. *Notonecta obliqua* Gallen, 1787 (Insecta, Hemiptera): proposed conservation of the specific name. Bulletin of Zoological Nomenculture 50:118-120.

Jansson, A. and **J.T. Polhemus**. 1993. *Corisa nigrolineata* Fieber, 1848 [currently *Sigara (Pseudovermicorixak) nigrolineata nigrolineata*] (Insecta, Heteroptera): proposed conservation of the specific name. Bulletin of Zoological Nomenculture 50:121-123.

Lattke, J. 1993. Claves para la determinacion de las subfamilias y generos de hormigas neotropicales, *en* K. Jaffe, et. al. El Mundo de las Hormigas. Ed. Equinoccio. Caracas. Pp. 145-170.

_____. 1994. Phylogenetic relationships and classification in the Ectatommmini. Entomologica Scandinavica.

MacNeill, C.D. 1993. Comments on the genus *Polites*, with the description of a new species of the *Themistocles* group from Mexico (Hesperiidae: Hesperiinae). Journal of the Lepidopterists' Society 47(3):177-198.

Noguera, F.A. and **J.A. Chemsak**. 1993. Two new species of Onciderini (Coleoptera: Cerambycidae) from the State of Jalisco, Mexico. Pan-Pacific Entomologist 69:290-294, 4 figs.

Polhemus, D.A. and **J.T. Polhemus**. 1994. A new species of *Aquarius* (Heteroptera: Gerridae) from Timor, with notes on Timorese zoogeography. Proceedings of the Entomological Society of Washington 96(1):54-62.

Polhemus, J.T. and P.B. Karunaratne. 1993. A review of the genus *Rhagadatoarsus* with descriptions of three new species (Heteroptera: Gerridae). Raffles Bulletin of Zoology 41:95-112.

Polhemus, J.T. and D.A. Polhemus. 1993. Two new genera of North American Veliinae (Heteroptera: Veliidae). Journal of the New York Entomology Society 101:391-398.

_____ and _____. 1993. The Trepobatinae (Gerridae) of New Guinea and surrounding regions, with a review of the world fauna. Part 1. Tribe Metrobatini. Entomologica Scandinavica 24:241-284.

Polhemus, J.T. 1993. Overlooked names in Nepomorpha, new synonymy, and a new name (Heteroptera: Corixidae, Notonectidae). Journal of the New York Entomology Society 101:431-433.

_____. 1994. The synonymy of *Gerris comatus comatus* Drake and Hottes and *Gerris comatus mickeli* Drake and Hottes (Heteroptera: Gerridae). Proceedings of the Entomological Society of Washington 96(1):178.

_____. 1994. A new species of *Pentacora* (Heteroptera: Saldidae) from the Ouachita Mountains of Arkansas. Journal of the Kansas Entomological Society 66:455-457.

Powell, J.A. and **J.A. Chemsak**. 1994. Additional data on the geographical distribution and adult activity of the diurnal mimetic plume moth, *Oidaematophorus chamelai*. Journal of the Lepidopterists' Society 48:72-73.

Shepard, W.D. 1993. Desert springs—both rare and endangered. Aquatic Conservation: Marine and Freshwater Ecosystems 3:351-359.

_____. 1993. An annotated checklist of the aquatic and semiaquatic dryopoid Coleoptera of California. Pan-Pacific Entomologist 69(1):1-11.

R.W. Sites and **J.T. Polhemus**. 1994. The Nepidae (Hemiptera) of the United States and Canada. Annals of the Entomological Society of America 87:27-42.

Watt, W. 1994. Allozymes in evolutionary genetics: self-imposed burden or extraordinary tool? Genetics Society of America 136:11-16.

Zimmerman, E.C. 1993. Australian weevils, Volume III. CSIRO Publications. East Melbourne, Victoria, Australia. Pp. 854, 306 figs.

_____. 1994. Australian weevils, Volume I. CSIRO Publications. East Melbourne, Victoria, Australia. Pp 741, 526 figs.

_____. 1994. Australian weevils, Volume II. CSIRO Publications. East Melbourne, Victoria, Australia. Pp 755, 1484 figs.

Abstracts, Reviews and Popular Publications:

Fondufe, G., **M.E. Irwin**, S.A. Isard, G.E. Kampmeier, D. Levin, and H. Zhang. 1993. Illinois Natural History Survey Annual Report.

Photo: Caroline Kopp. © CAS 1993.

Hands On Science in Cowell Hall provides touchable specimens as an interactive introduction to the collections of the Academy.

Irwin, M.E., S.A. Isard and G.E. Kampmeier. 1993. Illinois Report to NCR-148.

Isard, S.A. and **M.E. Irwin**. 1993. Predicting movements of airborne organisms. Illinois Natural History Survey Reports, No. 321 pp. 1-2.

Isard, S.A., **M.E. Irwin**, M. Carter, and T.O. Holtzer. 1994. Temperature stratification and insect layer concentrations: A preliminary analysis of atmospheric measurements and concurrent aerial insect collections from northeastern Colorado and east central Illinois. Proceedings of the 11th Conference on Biometeorology and Aerobiology 407-410. American Meteorological Society, San Diego.

Kampmeier, G.E., **M.E. Irwin**, G. Fondufe, and D. Levin. 1993. CRIS Report: Migration and dispersal of agricultural pests and their natural enemies. ILLU-12-0315.

Ortman, E.E., **M.E. Irwin**, R. Meola, S. Nemec, and R. Watts. 1993. Evaluation report of the USDA ARS-wide working conference involving the *Heliothis/Helicoverpa* action plan. USDA Internal Document and Proceedings of the *Heliothis/Helicoverpa* Action Plan Workshop. Junction, Texas. 8-11 November. 10 pages.

Polhemus, J.T. 1993. [Review of] Ecology of Aquatic Insects Vol. 1. Biology and Habitat. J. V. Ward, American Entomologist 39:122-123.

Ross, E.S. 1993. Ants. The Child's World. (Color) Distributed by Encyclopedia Britannica Educational Corp. 32 pp. (An illustrated book for children.)

_____. 1993. Yellowjackets. The Child's World. (Color) Distributed by Encyclopedia Britannica Educational Corp. 33 pp.

_____. 1994. Fearsome Fulgora. Pacific Discovery 19-23.

Herpetology

Scientific Publications:

Aldrich, M. and A.E. Leviton. 1993. (Eds.) Directory of Historians of American Science. Forum for the History of Science in America. News & Views (special issue) 10(3):1-59.

Brown, W.C. 1994. Philippine frogs of the Family Phacophoridae. Proceedings of the California Academy of Sciences 48(10):185-220.

de Queiroz, K. and J.A. Gauthier. 1994. Towards a phylogenetic system of biological nomenclature. Trends in Ecology and Evolution 9(1):27-31.

Drewes, R.C. and J.V. Vindum. 1994. Amphibians of the Impenetrable Forest, southwest Uganda. Journal of African Zoology 108:55-70.

Gauthier, J.A. 1994. The diversification of the amniotes. *In* Major Features of Vertebrate Evolution. D. Prothero (ed.). The Paleontological Society. Pp 129-159.

Jennings, M.R. 1994. Comments on the proposed conservation of *Hydromantes* Gistel, 1848, by the designation of *Salamandra generi* Temminck and Schlegel, 1838, as the type species (Amphibia, Caudata). Bulletin of Zoological nomenclature 51(2):149-150.

Jennings, M.R., and M.P. Hayes. 1994. The decline of native ranid frogs in the desert southwest. *In* Herpetology of the North American Deserts: Proceedings of a Symposium. Southwestern Herpetologists Society, Special Publication (5):iv+300 p. P.R. Brown and J.W. Wright (Eds). Pp. 183-211.

_____ and _____. 1994. Amphibian and reptile species of special concern in California. California Department of Fish and Game, Inland Fisheries Division, Rancho Cordova, California.

Saiki, M.K., **M.R. Jennings**, and W.G. Brumbaugh. 1993. Boron, molybdenum, and selenium in aquatic food chains from the lower San Joaquin River and its tributaries, California. Archives of Environmental Contamination and Toxicology 24(3):307-319.

Abstracts, Reviews, and Popular Publications:

Leviton, A.E. and M. Aldrich. 1994. [Abstract] The California Academy of Sciences, (1853-1896): Its First Half Century. International Society for the History, Philosophy and Social Studies of Biology, Brandeis University. Pp 16.

Leviton, A.E. 1994. [Abstract] Ferdinand Hayden, Eduard Suess and the Rocky Mountains, 1870-1910. Proceedings of the Southwest and Rocky Mountains Division, AAAS. Durango, CO.

Ichthyology

Scientific Publications:

Eschmeyer, W.N. 1994. Catalog of the Genera of Recent Fishes. 1994 electronic edition. Internet Gopher.

Abstracts, Reviews, and Popular Publications:

Eschmeyer, W.N. 1994. Scorpionfishes and their allies. *In* Encyclopedia of Fishes. Pp. 175-180. J. Paxton and W.N. Eschmeyer. Eds. Weldon Owen Pubs., Sydney.

Ferraris, C.J., Jr. 1994. Catfishes and knifefishes. *In* Encyclopedia of Fishes. Pp. 106-112. J. Paxton and W.N. Eschmeyer. Eds. Weldon Owen Pubs., Sydney.

Johnson, R.K. and **W.N. Eschmeyer**. 1994. Lizardfishes and their allies. *In* Encyclopedia of Fishes. Pp. 123-126. J. Paxton and W.N. Eschmeyer. Eds. Weldon Owen Pubs., Sydney.

Paxton, J.R. and **W.N. Eschmeyer**. 1994. (Consultant Editors) Encyclopedia of Fishes. A comprehensive guide by international experts. Weldon Owen Publishers Limited, Australia. 240 pp., extensive color artwork.

Invertebrate Zoology and Geology

Scientific Publications:

Bertsch, H. 1993. Opistobranquios (Mollusca) de la costa occidental de Mexico. *In* Biodiversidad Marina y Costera de Mexico. S.I. Salazar Vallejo y N.E. Gonzalez. Eds. Com. Nal. Biodiversidad y CIQRO, Mexico.

Bertsch, H. 1994. Japanese contributions to opisthobranch research: Part II: The works of Shintaro Hirase. Western Society of Malacologists Annual Report 26:12.

Branch, M.L. and **G.C. Williams.** 1993. The Hydrozoa, Octocorallia and Scleractinia of subantarctic Marion and Prince Edward Islands: Illustrated keys to the species and results of the 1982-1989 University of Cape Town Surveys. South African Journal of Antarctic Research 23(1&2):3-24.

Fautin, D.G., D.J. Futuyma, and F.C. James. 1993. Eds. Annual Review of Ecology and Systematics, Volume 24, 646 pp.

Photo: Charlotte Fiorito. © CAS 1992.

Academy entomologist Roberta Brett teaches a young student about Bay Area insects.

Ghiselin, M.T. 1992. How well known is the opisthobranch gastropod fauna of Madang, Papua New Guinea. Proceedings of the Seventh International Coral Reef Symposium, Guam 2:697-701.

Gosliner, T. 1992. Biodiversity of tropical opisthobranch gastropod faunas. Proceedings of the Seventh International Coral Reef Symposium, Guam 2:702-709.

Gosliner, T. 1994. Opisthobranchia. *In* Microscopic Anatomy of Invertebrates. V. 5, Mollusca I. Pp. 253-355. F. Harrison & A. Kohn. Eds. John Wiley & Sons, New York.

Gosliner, T. and S. Johnson. 1994. Review of the genus *Hallaxa* (Nudibranchia: Actinocyclidae), with descriptions of nine new species. The Veliger 37(2):155-191.

Murphy, M.A. 1993. The *Pandorinellina? boucoti* lineage (Lochkovian, Devonian, conodonts). Journal of Paleontology 67(5):869-874.

Pitt, W.D. and L.J. Pitt. 1993. Ultra-violet light as a useful tool for identifying fossil mollusks, with examples from the Gatun Formation, Panama. Tulane Studies in Geology and Paleontology 26(1):1-13.

Rodda, P.U., M.A. Murphy, and **C. Schuchman**. 1993. The nautilid *Eucymatoceras* (Mollusca: Cephalopoda) in the Lower Cretaceous of Northern California. The Veliger 36(3):265-269.

Setran, A.C., and **D.W. Behrens**. 1993. Transitional ecological requirements of early juveniles of two sympatric stichaeid fishes, *Cebidichthys violaceus* and *Xiphister mucosus*. Environmental Biology of Fishes 37:381-395.

Springer, K.B., and **M.A. Murphy**. 1994. Punctuated stasis and collateral evolution in the Devonian graptolite lineage of *Monograptus hercynicus* Perner. Lethaia 27:1-10.

Westbroek, P., B. Buddemeier, M. Coleman, D.J. Kok, **D.G. Fautin**, L. Stal. 1994. Strategies for the study of climate forcing by calcification. Bulletin de l'Institut Oceanographique. Special Number 13:37-60. Monoco.

Williams, G.C. 1992. Biotic diversity, biogeography, and phylogeny of pennatulacean octocorals associated with coral reefs in the Indo-Pacific. Proceedings of the Seventh International Coral Reef Symposium, Guam 2:729-735.

Abstracts, Reviews and Popular Publications:

Baldinger, A.J. 1993. Phylogenetic systematics of the land hopper genus *Arcitalitrus* (Crustacea: Amphipodia: Talitridae). American Zoologist 33(5):81A.

_____. 1993. Systematics and population biology of *Arcitalitrus sylvaticus* (Haswell, 1879) in San Francisco, California. M.A. Thesis, San Francisco State University, 96 pp.

Bertsch, H. 1994. Western Society of Malacologists Annual Report 26:24 pages. Ed.

_____. 1994. Natural history of west Mexican marine molluscs: habitat, feeding relationships, and reproductive behavior. Western Society of Malacologists Annual Report 26:4.

_____. 1994. Roundtable discussion: research in west Mexico. Western Society of Malacologists Annual Report 26:11.

_____. 1994. Estudios sobre la biodiversidad de los opistobranquios en el Golfo de California. Decimo Simposium Internacional de Biologia Marina, Ensenada. pp. 48, 60.

Special Collection of CAS.

This photograph of the California Midwinter Fair & Exposition of 1894 commemorated the 100th anniversary of the event, held on the current site of the Academy in Golden Gate Park, in a collaborative exhibit by the Academy and the San Francisco Recreation & Park Department.

Coan, E.V. 1993. The role of the amateur in the development of malacology in the western United States. American Conchologist 21(2):4-7.

_____. 1993. Note by a co-editor. Malacologia 35(2):410.

_____. 1994. Review of Bivalved Shells of the Red Sea and Bivalves of Australia, Vol. I. The Veliger 37(3):322-323.

Fautin, D.G. 1994. Seasons without light. Explore. Spring 1994:18. (Magazine of the University of Kansas.)

Ghiselin, M.T. 1993. [Review of] Ilse Jahn, Grundzuge der Biologiegeschichte. History and Philosophy of Life Sciences 15:109.

_____. 1993. [Review of] The Correspondence of Charles Darwin. Vol. 7, 1858-1859, Supplement 1821-1857. Frederick Burkhart and Sydney Smith. Eds. History and Philosophy of Life Sciences 15:247.

_____. 1994. [Review of] Larvae and Evolution. Donald I. Williamson. Newsletter of the Pacific Division of the American Association for the Advancement of Science (22)4.

_____. 1993. The Origin of Vertebrates and the Principle of Succession of Functions. Genealogical Sketches by Anton Dohrn. 1875. An English Translation from the German, Introduction and Bibliography. History and Philosophy of Life Sciences 16:5-98.

Gosliner, T. 1993. [Review of] Biology Today. Sandra Gottfried. Textbook Newsletter.

_____. 1993. Slugging it out in the intertidal: the rich nudibranch fauna of the Fitzgerald Marine Reserve. Between the Tides.

_____. 1994. [Review of] Australian Marine Shells. Prosobranch Gastropods. Part 1. The Festivus 26(3):39-40.

_____. 1994. [Review of] Sea Slugs of Western Australia. Fred Wells and Clayton Bryce. The Veliger 37(2):219.

Mooi, R. 1994. Many species of sea urchins draw widespread collection of names. Between the Tides 8(1):4-5.

Mooi, R., and M. Telford. 1993. Diet for a small urchin: Does body size affect deposit feeding? International Echinoderm Conference Abstracts.

Mooi, R., B. David and D. Marchand. 1993. Echinoderm skeletal homologies: Classical morphology meets modern phylogenetics. International Echinoderm Conference Abstracts.

Scudo, F.M. and **M.T. Ghiselin**. 1993. [Review of] The Causes of Evolution. J.B.S. Haldane. History and Philosophy of Life Sciences 15:117-118.

Stephans, B.T., D.C. Sommerville, S.J. Krenn, and **D.W. Behrens**. 1994. Observations of the gray whale migration in the vicinity of Diablo Canyon, California: 1981-1993 migrations. Forty-fifth Report of the International Whaling Commission.

Van Syoc, R. J. 1994. Genetic population structure within and between paramphitropical sub-populations of the edible, eastern Pacific goose barnacle *Pollicipes elegans*. 75th Annual Meeting of the Pacific Division, AAAS Abstracts.

_____. 1994. Molecular Phylogenetics and Population Structure Derived from Mitochondrial DNA Sequence Variation in the Edible Goose Barnacle Genus *Pollicipes* (Cirripedia, Crustacea). Ph. D. Dissertation, University of California San Diego.

Library

Scientific/Professional Publications:

Moulder, David S. and **Tom Moritz**. 1994. Report on diagnostic procedures and a definition of minimum requirements for providing information services on a national and/or regional level. Manuals and guides (Intergovernmental Oceanographic Commission), no. 30, v. 1. MIM Publication Series v. 1.

Abstracts, Reviews and Popular Publications:

Schiff, Adam L. 1993. [Review of] The AIDS Directory. RQ 33(1):115-118.

Osher Laboratory for Molecular Systematics

Scientific Publications:

Fedoseyeva, E., Y. Li, **B. Huey,** S. Tam, C.A. Hunt, G. Benichou, and M.R. Garovoy. 1994. Inhibition of interferon-gammoa-mediated immune functions by oligonucleotides. Suppression of human T cell proliferation by downregulation of IFN-gamme-induced ICAM-1 and Fc-receptor on accessory cells. Transplantation 57:606-612.

Fong, P. and **R.L. Garthwaite**. 1994. Genetic variation in the *Hediste limnicola - H. diversicolor - H. japonica* species complex (Polychaeta: Nereididae). Marine Biology 118:463-470.

Garthwaite, R.L., D.C. Potts, J.E.N. Veron, and T.J. Done. 1994. Electrophoretic identification of porited species. (Anthozoa: Nereididae). Coral Reefs 13:49-56.

Huey, B., K. McCormack, J. Capper, C. Ratliff, B.W. Colombe, M.R. Garovoy, and C.B. Wilson. 1993. Associations of HLA-DR and HLA-DQ types with anti-GBM nephritis by sequence specific oligonucleotide probe hybridization. Kidney International 44:307-312.

Potts, D.C., A.F. Budd, and **R.L. Garthwaite**. 1993. Soft tissue versus skeletal approaches to species recognition and phylogeny reconstruction in corals. Courier forschungs Instetut Senckenberg 164:221-231.

Ramanathan, M., M. Lantz, R.D. McGregor, **B. Huey**, S. Tam, Y. Li, iM.R. Garovoy, and C.A. Wilson. 1993. Inhibition of interferon-gamma-induced major histocompatibility complex class I expression by certain oligonucleotides. Transplantation 57:612-615.

Ornithology and Mammalogy

Scientific Publications:

Baptista, L.F. 1993. El estudio de la varacion geografico usando vocalizaciones y las bibliotecas de sonidos de aves neotropicales. Curación moderna de collecciones ornithologias. P. Escalante-Pliego. Ed. American Ornithological Union:15-30.

Baptista, L.F., D.A. Bell, and P.W. Trail. 1993. Song Learning and Production in the White-Crowned Sparrow: Parallels with Sexual Imprinting. Netherlands Journal of Zoology 43(1-2):17-33.

Baptista, L.F., P.W. Trail, B.B. DeWolfe, and M.L. Morton. 1993. Singing and its Functions in Female White-Crowned Sparrows. Animal Behavior 46:511-524.

Gaunt, S.L.L., **L.F. Baptista**, J.E. Sanchez, and D. Hernandez. 1994. Song Learning as Evidenced from Song Sharing in Two Hummingbird Species (*Colibri coruscans* and *C. thalassinus*). Auk 111(1):87-103.

Trail, P.W. and **L.F. Baptista.** 1993. The Impact of Brown-Headed Cowbird Parasitism on Populations of the Nuttall's White-Crowned Sparrow. Conservation Biology 7(2):309-315.

Abstracts, Reviews and Popular Publications:

Bell, D.A., D.P. Gregoire, and B.G. Walton. 1993. Bridge use by peregrine falcons in the San Francisco Bay Area. Symposium Adaptations of Raptors to Human Altered Environments. Journal of Raptor Research 28:68.

Bell, D.A. 1994. Peregrines seek high-rise habitat. Pacific Discovery 47:20-26.

Scientific Publications produced the following publications:

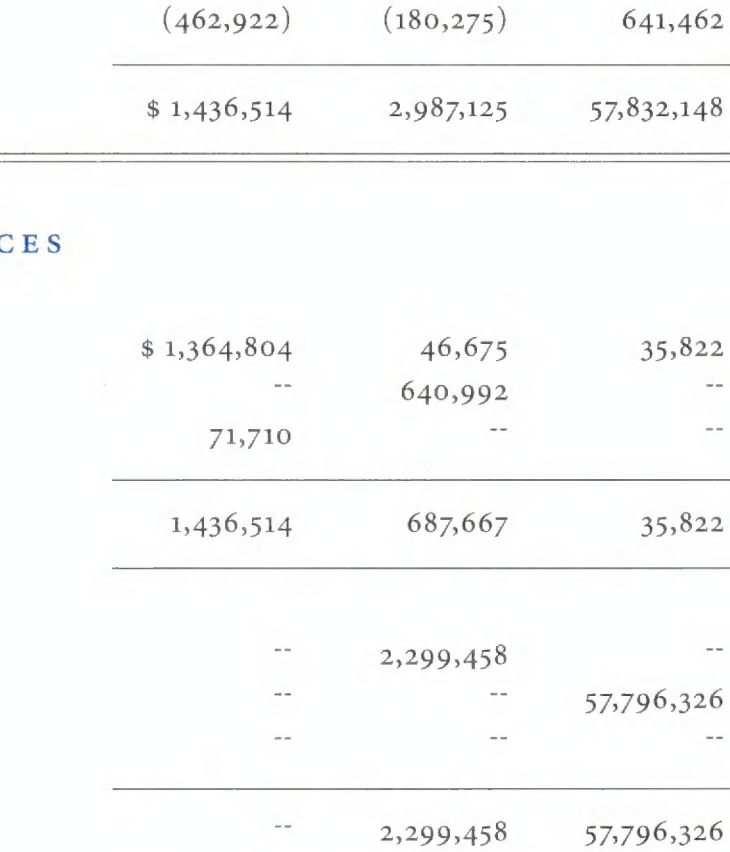
Proceedings of the California Academy of Sciences, Vol. 48, nos. 6-8. I

BALANCE SHEET

June 30, 1994 (with comparative totals for 1993)	Current funds: General Operating	Current funds: Restricted	Endowment and Similar Funds	Plant Fund	Total all funds: 1994	Total all funds: 1993
ASSETS						
Cash and cash equivalents	$ 636,860	166,503	--	173,061	976,424	765,423
Receivables:						
Research grants	--	824,488	--	--	824,488	677,006
Accrued interest and dividends	379,504	15,813	--	--	395,317	327,900
Other	124,399	782	--	69,895	195,076	476,828
Inventory	368,148	--	--	--	368,148	425,375
Prepaid expenses	390,525	--	--	--	390,525	497,512
Investments in marketable securities	--	2,159,814	57,190,686	275,000	59,625,500	56,214,652
Property and equipment at cost, less accumulated depreciation	--	--	--	33,419,388	33,419,388	32,698,252
Due from (to) other funds	(462,922)	(180,275)	641,462	1,735	--	--
TOTAL ASSETS	$ 1,436,514	2,987,125	57,832,148	33,939,079	96,194,866	92,082,948
LIABILITIES AND FUND BALANCES						
Liabilities:						
Accrued expenses and other liabilities	$ 1,364,804	46,675	35,822	607	1,447,908	1,222,407
Deferred grant revenue	--	640,992	--	--	640,992	691,156
Deferred income	71,710	--	--	--	71,710	143,028
	1,436,514	687,667	35,822	607	2,160,610	2,056,591
Fund balances:						
Restricted	--	2,299,458	--	519,084	2,818,542	2,080,537
Endowment and similar funds	--	--	57,796,326	--	57,796,326	54,991,155
Plant fund	--	--	--	33,419,388	33,419,388	32,954,665
	--	2,299,458	57,796,326	33,938,472	94,034,256	90,026,357
TOTAL LIABILITIES AND FUND BALANCES	$ 1,436,514	2,987,125	57,832,148	33,939,079	96,194,866	92,082,948

REVENUES

Endowment	$3,958,864	24%
Admissions	$3,647,436	23%
Contributions/Memberships	$2,797,539	17%
Auxiliary	$2,347,384	14%
City & County of San Francisco	$1,553,452	10%
Government Grants	$963,885	6%
Tuition and Program Fees	$970,064	6%



EXPENSES

28%	$4,477,846	Public Programs
25%	$3,915,947	Research
13%	$2,137,285	Aquarium
10%	$1,660,206	Auxiliary
10%	$1,624,280	Development and Membership
9%	$1,404,992	Management and General
5%	$799,147	Capital

STATEMENT OF ACTIVITIES AND CHANGES IN FUND BALANCE SHEET

Year ended June 30, 1994 (with comparative totals for 1993)	Current funds		Endowment and Similar Funds	Plant Fund	Total all funds	
	General Operating	Restricted			1994	1993
SUPPORT AND REVENUE						
Admissions	$ 3,647,436	--	--	--	3,647,436	3,165,313
Contributions	1,199,670	677,650	--	--	1,877,320	1,847,080
Memberships	919,059	1,160	--	--	920,219	752,429
Tuition and program fees	888,804	81,260	--	--	970,064	909,460
Auxiliary activities	2,297,699	49,685	--	--	2,347,384	1,872,155
Government grant income	--	963,885	--	--	963,885	910,946
City and County of San Francisco	1,553,452	--	--	--	1,553,452	1,578,623
Investment and endowment income	1,880,046	267,826	--	--	2,147,872	2,220,373
TOTAL SUPPORT AND REVENUE	12,386,166	2,041,466	--	--	14,427,632	13,256,379
EXPENSES						
Research	3,243,326	672,621	--	--	3,915,947	3,745,066
Public programs	4,147,233	330,613	--	--	4,477,846	4,229,097
Aquarium	2,040,397	96,888	--	--	2,137,285	2,074,136
Development and membership	1,613,366	10,914	--	--	1,624,280	1,537,169
Auxiliary activities	1,660,206	--	--	--	1,660,206	1,444,046
Management and general	1,404,414	578	--	--	1,404,992	1,383,939
Government grant overhead cost reimbursement	(178,809)	178,809	--	--	--	--
Depreciation expense	--	--	--	1,364,349	1,364,349	1,311,659
TOTAL OPERATING EXPENSE	13,930,133	1,290,423	--	1,364,349	16,584,905	15,725,112
EXCESS (DEFICIENCY) OF SUPPORT AND REVENUE OVER OPERATING EXPENSE BEFORE CAPITAL TRANSACTIONS AND TRANSFERS	(1,543,967)	751,043	--	(1,364,349)	(2,157,273)	(2,468,733)
CAPITAL TRANSACTIONS						
Interest	--	--	--	19,667	19,667	7,556
Net gain on sale of investments in marketable securities	--	--	3,508,561	--	3,508,561	2,771,245
Grants and donations	--	--	1,067,203	767,632	1,834,835	1,137,334
City and County of San Francisco	--	--	--	802,109	802,109	657,801
TOTAL CAPITAL TRANSACTIONS	--	--	4,575,764	1,589,408	6,165,172	4,573,936
EXCESS (DEFICIENCY) OF REVENUES OVER EXPENSES	(1,543,967)	751,043	4,575,764	225,059	4,007,899	2,105,203
FUND BALANCES, BEGINNING OF YEAR	--	2,080,537	54,991,155	32,954,665	90,026,357	87,921,154
ACQUISITION OF PROPERTY AND EQUIPMENT	(514,668)	(284,479)	--	799,147	--	--
FUND TRANSFERS	2,058,635	(247,643)	(1,770,593)	(40,399)	--	--
FUND BALANCES, END OF YEAR	$ --	2,299,458	57,796,326	33,938,472	94,034,256	90,026,357

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ANNUAL REPORT STAFF

Project Director
David Shaw

Project Coordinators
Sheri Ketchum and Gwen Sobolewski

Writers
Keith Howell and Carol Prince

Photographers
Charlotte Fiorito, Caroline Kopp, Dong Lin, David Liittschwager, Jan Lundberg, Susan Middleton and Jens Vindum

Graphic Design
Ross Carron Design

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